

## WHAT IS CLAIMED IS:

- 5 1. An inhibitor of complement activation which specifically binds factor D which at a molar ratio of about 1.5:1 (inhibitor: factor D) can substantially inhibit complement activation.
2. An inhibitor of complement activation which specifically binds to human factor D which at a molar ratio of less than 80:1 (inhibitor: factor D) can substantially completely inhibit complement activation.
- 10 3. The inhibitor of claims 1 or 2 wherein the inhibition of complement activation is determined *in vitro*.
4. The inhibitor of claims 1 or 2 wherein the inhibition of complement activation is determined *in vitro* by an extracorporeal assay.
- 15 5. An Inhibitor of complement activation which binds to a region of human factor D between (and including) amino acid residue numbers Cys154 and Cys170.
6. The inhibitor of claim 5 which does not bind to human factor D if amino acid residues Arg156, His159 and Leu168 are absent.
- 20 7. The inhibitor of any of claims 1, 2, 5 or 6 which is an antibody or a homologue, analogue or fragment thereof, a peptide, a peptidomimetic or an organic compound.

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8. The inhibitor of claim 7 wherein the antibody fragment is Fab, F(ab')<sub>2</sub>, Fv or single chain Fv.
9. The inhibitor of claim 7 wherein the antibody is a chimeric, humanized, deimmunised or human antibody.
- 5 10. The monoclonal antibody 166-32.
11. The hybridoma producing the monoclonal antibody 166-32, deposited at the American Type Culture Collection under Accession number HB-12476.
12. A monoclonal antibody or a fragment, analogue or homologue thereof, or a peptide, oligonucleotide, peptidomimetic or an organic compound which
- 10 binds to the same epitope on factor D as the antibody 166-32.
13. The fragment of claim 12 which is an are Fab, F(ab')<sub>2</sub>, Fv or single chain Fv.
14. The chimeric form, having a mouse variable region and a human constant region, of the Fab fragment of claim 13.
15. A cell line producing the monoclonal antibody or fragment thereof which
- 15 binds to the same epitope on factor D as the antibody 166-32.
16. A cell line producing the fragment of claim 13.
17. A cell line producing the chimeric Fab fragment of claim 14.
18. The chimeric form, having a mouse variable region and a human constant region, of the monoclonal antibody 166-32.
- 20 19. The chimeric form, having a mouse variable region and a human constant region, of the Fab fragment of the monoclonal antibody 166-32.

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method of treating diseases or conditions by controlled activation of the complement system, including administering *in vivo* or *ex vivo*, a method of treating complement deficiencies, a pulmonary bypass comprising the use of a membrane according to claim 1 or 2.

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**SECRET**

and